

**REMARKS**

As a preliminary, Applicant and Applicant's representative thank the Examiner for the interview of August 1, 2008.

By the present amendment:

- Claim 1 has been amended to delete “two-dimensional” and replace “the appearance of a three-dimensional image” by “a 3D effect” (corresponding to language in original claim 1), and further, to specify that the 3D effect is a “relief and volume effect” (based on the description at page 3, line 12), which is achieved by the “accurate printing registration of the respective sets of lines on the front and reverse side” (based on the description at page 5, lines 32-33);
- Claim 2 has been amended to reintroduce a recitation that “the 3D effect is created by the lines being of variable density and/or variable printing intensity” (as recited in original claim 2);
- Claim 6 has been amended to replace “the lines are alternately on the front side and on the reverse side” by “the lines of the image are printed such that two adjacent lines of the image are always such that one of the lines is on one side and the next line is on the reverse side” (based on the description at page 3, lines 31-33);
- Accordingly, claim 21 (“alternate successively”) has been canceled;
- New claims 28-29 dependent on claims 1 and 2, respectively, have been added to recite that the first set of lines and the second set of lines complement each other to constitute the image so that the image with a 3D effect is visible when observed in transmitted light

but not when observed in reflected light (based on description of first variant at page 5, lines 20-22; it is submitted that the expression “but not when observed in reflected light” is inherent from the description as immediately understood by the person of the art, i.e., since the image is “constituted” by the combination of both sets of lines, the image cannot be visible when the lines on the reverse side are not seen);

- New claims 30-31 dependent on claim 1 and 2, respectively, have been added to recite that the first set of lines and the second set of lines are in precise superposition so that the image with a 3D effect is visible when observed in reflected light and in transmitted light (based on description of the second variant at page 6, lines 15-21).

Claims 1-3, 5-8, 11-12, 15-17, and 22-31 are pending in the present application. Claim 1 is the only independent claim.

I. Lack of written description rejection

In the Office Action, claims 1-3, 5-8, 11-12, 15-17, and 21-27 are rejected under 35 U.S.C. 112, first paragraph, as lacking written description.

Reconsideration and withdrawal of the rejection is respectfully requested. Claim 1 has been amended to delete “two-dimensional” and replace “the appearance of a three-dimensional image” by “a 3D effect” (corresponding to language in original claim 1), and further, to specify that the 3D effect is a “relief and volume effect” (based on the description at page 3, line 12), which is achieved by the “accurate printing registration of the respective sets of lines on the front and reverse side” (based on the description at page 5, lines 32-33). Accordingly, it is submitted that the rejection should be withdrawn.

II. Indefiniteness rejection

In the Office Action, claims 1-3, 5-8, 11-12, 15-17, and 21-27 are rejected under 35 U.S.C. 112, second paragraph, as indefinite. Specifically, it is alleged that:

- Claim 1: “the front side” on line 3 and “the reverse side” on line 7 have insufficient antecedent basis.
- Claim 1: 2-D image having the appearance of 3-D image is confusing because the first and second sets of lines are on opposite sides so they “no longer form a 2 dimensional figure” (Office Action at page 3, last full paragraph).
- Dependent claims: “the lines” is unclear as to which set of lines.

Reconsideration and withdrawal of the rejection is respectfully requested. Claim 1 has been amended to clarify “a front side” and “a reverse side” and the dependent claims have been amended to clarify “the first and second sets of lines.” Further, the language referring to “two-dimensional” has been modified as discussed above in Part I. Accordingly, it is submitted that the rejection should be withdrawn.

III. Art rejections

In the Office Action, claims 1-3, 5-8, 11, 15, 17, and 21-27 are rejected under 35 U.S.C. 102(b) as anticipated by CA 23335239 (“Zeiter”).

Further, in the Office Action, claims 1-3, 5-8, 11-12, 15-17, and 21-27 are rejected under 35 U.S.C. 103(a) as obvious over US 5,449,200 to Andric et al. (“Andric”) in view of Zeiter.

Also, in the Office Action, claims 12 and 16 are rejected under 35 U.S.C. 103(a) as obvious over Zeiter in view of US 6,402,888 to Doublet et al. (“Doublet”).

It is alleged in the Office Action, with respect to Zeiter, that the moiré effect in Zeiter is the same as a 2D pattern having a 3D effect, referring in particular to page 3, lines 5-20 of Zeiter for the use of a reflecting material to change the angle of reflection.

With respect to Andric, it is acknowledged in the Office Action that Andric does not teach 2D indicia having the appearance of 3D images, but it is alleged that Zeiter suggests such modification. In particular, it is alleged that “because the same lines and positioning are employed teaching viewing angles, resolution, straight and curved lines, and lightness to darkness effects, Zeiter’s teaching embraces varying printing intensity and density of claim 2” (Office Action at page 8, second paragraph).

Reconsideration and withdrawal of the rejections is respectfully requested.

As a preliminary, it is submitted that the rejection of claims 12 and 16 was traversed along with the main rejection based on Zeiter in the last response.

Further, as discussed at the interview, it is submitted that despite the statement at page 3, line 31 of Zeiter, the image in Zeiter does not have a “3D effect” as defined in the present application, but is only an actual “three dimensional pattern,” as this is explicitly stated in Zeiter at page 3, lines 17-18.

More specifically, Fig. 8 of Zeiter shows that the sticks or crosses are simple 2D images with lines that are either parallel or intersecting, but they do not create any visible “volume effect” in the image of the sticks or crosses. What Zeiter means by “three dimensional moiré effect” is that, since the lines are placed above each other due to the thickness of the sheet (in a

“three dimensional pattern,” Zeiter at page 3, lines 17-18), when the viewing angle changes, the pattern also changes, similar to a “moiré” image.

In a traditional “moiré”, the color or pattern change occurs because the weft and yarn threads are in different planes, so that they are “immediately overlapping” as stated in Zeiter at page 3, line 8. Reference is made to the attached excerpt of Smook, Handbook of Pulp & Paper Terminology, 2<sup>nd</sup> Ed., Angus Wilde Publications Inc., Vancouver B.C., Canada (2001), which provides a definition of “moiré” as follows:

MOIRE: Distracting pattern produced at regular intervals on halftone reproductions due to non-uniform overlapping of dots or lines (i.e., two or more screens are not properly aligned.”

Thus, according to this definition, the effect of a “moiré” is not a “relief” or “volume” effect, only a “color or pattern change” effect due to “non-uniform overlapping” of indicia. This is the case in Zeiter. The specificity of the “moiré” pattern of Zeiter is that “the already known distances between neighbouring image elements in the moiré pattern have to be maintained” (Zeiter at page 3, lines 20-21), i.e., the variation of the image with the viewing angle can be controlled for a more specific “moiré” effect. Namely, in Zeiter, these distances are selected in reference to the depth distance between lines, which is defined by the thickness of the sheet.

In summary, Zeiter can improve on a traditional “moiré” by controlling precisely how the visible image varies when the viewing angle varies due to this controlled “three dimensional pattern.” However, the image formed by the lines that the viewer sees at any angle is always a 2D image without any relief or volume effect, as clearly illustrated by the fingers and crosses reproduced on Fig. 8 of Zeiter.

In contrast, in the presently claimed invention, the first set of lines printed on the front side and the second set of lines printed on the reverse side are arranged to form an image when observed in transmitted light, wherein the image has a 3D effect that is a relief or volume effect, as recited in present claim 1. An advantage of this feature is that the more complex image, and specifically, the relief or volume effect of the image, makes it possible to check the authenticity of the security document with considerably improved accuracy, as compared to a simple 2D image such as the sticks and crosses of Zeiter, which do not give any relief or volume effect to the image when observed from any given angle. This feature of the presently claimed invention and its advantages are not taught or suggested in Zeiter. Further, the other cited references fail to remedy the deficiencies of Zeiter. Therefore, the present claims are not obvious over Zeiter taken alone or in any combination with the other cited references.

In addition, with respect to the dependent claims, it is submitted that the combined features of each of the dependent claims are not taught or suggested in the cited references taken alone or in any combination.

In particular, with respect to claim 2, it is submitted that Zeiter does not have lines of varying number density or printing density, let alone a suggestion to use such variations to create a relief or volume effect in an image.

With respect to claims 28-29, it is submitted that Zeiter does not have complementing indicia on both sides, let alone this combination forming an image with 3D effect.

With respect to claims 30-31, it is submitted that, although Zeiter has perfectly superposed indicia, these indicia do not form a 3D effect in reflected light.

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Further, the other cited references fail to remedy the deficiencies of Zeiter.

Therefore, each of the dependent claims, and in particular each of claims 2 and 28-31 is not obvious over Zeiter taken alone or in any combination with the other cited references.

In view of the above, it is submitted that the rejections should be withdrawn.

Conclusion

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

If there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

If this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to Deposit Account No. 50-2866.

Respectfully submitted,  
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